

REMARKS

With this Response, claims 1-2, 10-11, 19, 24-25, 33-34, and 42 are amended.

Applicants respectfully request that claims 27 and 36 be canceled without prejudice. Therefore, claims 1-26, 28-35, and 37-46 are pending.

Claim Rejections - 35 U.S.C. § 103

Claims 1-4, 6-7, 10-13, 15-16, 19-27, 29-30, 33-36, 38-39, and 42-46

Claims 1-4, 6-7, 10-13, 15-16, 19-27, 29-30, 33-36, 38-39, and 42-46 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,960,350 issued to Schorman et al. (*Schorman*) in view of U.S. Patent No. 5,960,350 issued to Moore et al. (*Moore*). Claims 27 and 36 have been canceled without prejudice; therefore, rejection of these claims is moot.

Applicants respectfully submit that the remaining claims are not rendered obvious by the cited references for at least the following reasons.

Claims 1-4, 6-7, 10-13, 15-16, 19-23

Claim 1 as amended recites:

A method to determine an antennae array weight set corresponding to a subscriber unit (SU) for cellular communications between the SU and a first base station (BS) of a system, the system including the first BS and a number of other base stations, the method comprising:

transmitting a **plurality of test pilot downlink signals from the first BS to the SU**, each test pilot downlink signal processed with a different weight set than the other test pilot downlink signals, **at least one of the plurality of the test pilot downlink signals** comprising a CDMA pilot signal **associated with the first BS, and at least one of the plurality of test pilot downlink signals** comprising a CDMA pilot signal **associated with one of the other, non-neighboring base stations;**

receiving a report signal from the SU for at least one of the test pilot downlink signals; and

selecting a weight set from the plurality of weight sets based, at least in part, on the received report signal.

Claims 10 and 19 recite similar limitations directed to a base station transmitting a pilot signal associated with the base station and a pilot signal associated with one of the other, non-neighboring base stations in the system.

Applicants respectfully submit that *Schorman* and *Moore* fail, whether alone or in combination, to disclose or suggest every element of the claims as required by MPEP 2143 for a prima facie case of obviousness. The Office Action specifically cites *Schorman* at col. 5, lines 49 to 58 as disclosing pilot signals using multiple PN offsets. That section recites in part the following:

In a preferred embodiment in a CDMA system, the subscriber may be informed of the beacon via a downlink message that indicates the PN offset of the unique beacon signal, assuming that the beacon signal is the same as the sector pilot signal with a different PN code or PN offset.

Applicants note that *Schorman* specifically states that the beacon signal "is the same as the sector pilot signal," with a different PN offset. Thus, every pilot signal is the same, and all associated with the same transmitting base station; no pilot signal is associated with another base station. Therefore, *Schorman* alone fails to disclose or suggest a pilot signal associated with the base station and a pilot signal associated with a non-neighboring base station.

The Office Action cites *Moore* as disclosing a pilot signal associated with one of the other base stations in a system. Applicants note that this section of *Moore* discusses hard hand off between **neighboring** base stations. Hard handoff may require a change of carrier frequency by the mobile station. To facilitate the change of carrier frequency *Moore* discusses that a target BS will transmit a pilot signal (presumably its own pilot signal) to the mobile station using the same carrier frequency as the source BS, which will result in an acquisition of the mobile station, which mobile can then be directed to change carrier frequency to match the target BS. See col. 1, line 66 to col. 2, line 57. Applicants respectfully submit that whether or not a base station

transmitting its own pilot signal using a different carrier frequency can be construed as "a pilot signal associated with one of the other base stations" as claimed, which Applicants do not concede, *Moore* fails to cure the deficiencies of *Schorman*. Either alone or in combination, *Schorman* and *Moore* fail to disclose or suggest transmitting a pilot signal associated with a first base station, and a pilot signal associated with **one of the other, non-neighboring base stations**, as recited in claims 1, 10, and 19. Therefore, Applicants respectfully submit that no combination of the references discloses every element of the claims, and so the references fail to render obvious the invention as claimed.

Claims 2-4 and 6-7 depend from claims; claims 11-13 and 15-16 depend from claim 10; claims 20-23 depend from claim 19. Because dependent claims necessarily include limitations of the base claims from which they depend, Applicants respectfully submit that these claims are not rendered obvious by the cited references for at least the reasons set forth above for the independent base claims from which they depend.

Claims 24-26, 29-30, 34-35, 38-39, and 42-46

Claim 24 as amended recites the following:

A method to determine an antennae array weight set corresponding to a subscriber unit (SU) for communications between the SU and a first base station (BS) of a system, the system including the first BS and a number of other base stations, the method comprising:

transmitting a plurality of test pilot downlink signals from the first BS to the SU, each test pilot downlink signal processed with a different weight set than the other test pilot downlink signals, at least one of the plurality of test pilot downlink signals comprising a pilot signal associated with the first BS, and at least one of the plurality of test pilot downlink signals comprising a pilot signal associated with one of the other base stations that is typically used for at least one of controlling power and base station hand off, the one of the other base stations being sufficiently spatially separated from the first base station to not produce interference between the first BS and the SU;

receiving a report signal from the SU for at least one of the pilot downlink signals; and

determining the weight set corresponding to the SU based on the report signal.

Claims 33 and 42 recite limitations similarly directed to a first BS transmitting a pilot signal associated with the base station and a pilot signal associated with one of the other base stations in the system, the other BS being sufficient spatially separated from the first BS to not produce interference between the first BS and the SU.

In a similar manner as that discussed above, Applicants respectfully submit that the discussion in *Schorman* of transmitting beacon signals and the discussion in *Moore* of hard handoff fail to disclose or suggest a first BS transmitting a pilot signal associated with the first BS and a pilot signal associated with one of the other base stations in the system, **the other BS being sufficient spatially separated from the first BS to not produce interference** between the first BS and the SU, as recited in claims 24, 33, and 42. Therefore, Applicants respectfully submit that the cited references fail, either alone or in combination, to render obvious the invention as recited in the claims.

Furthermore, because dependent claims necessarily include the limitations of the independent claims from which they depend, Applicants respectfully submit that claims 25-26 and 29-30, 35 and 38-39, and 43-46, which depend respectively from independent claims 24, 33, and 42, are not rendered obvious by the cited references for at least the reasons set forth above with respect to the independent claims.

Claims 5, 8-9, 14, 17-18, 28, 31-32, 37, and 40-41

Claims 5, 8-9, 14, 17-18, 28, 31-32, 37, and 40-41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Schorman* and *Moore* as applied to claims 1, 10, 19, 24, 33, and 42, and further in view of U.S. Patent No. 5,940,743 issued to Sunay et al. (*Sunay*).

Applicants respectfully submit that the rejection of claims 1, 10, 19, 24, 33, and 42 under

Schorman and *Moore* is overcome above. Therefore, whether or not *Sunay* discloses what is asserted in the Office Action at page 8 (a serving base station transmitting an estimate of the weight set to be used after handoff), the independent base claims are not rendered obvious by the *Schorman* and *Moore*. *Sunay* merely discusses handoff between base stations, and fails to cure the deficiencies of *Schorman* and *Moore* noted above. Therefore, the reference, either alone or in combination, fail to disclose or suggest a first base station transmitting a pilot signal associated with the base station and a pilot signal associated with one of the other base stations in the system, as recited in the claims. Therefore, Applicants respectfully submit that these claims are not rendered obvious by the cited references for at least the reasons set forth above.


Conclusion

Applicants respectfully submit that all rejections have been overcome herein. Therefore, all pending claims are in condition for allowance, and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application.

Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,
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